PROC. ENTOMOL. SOC. WASH.
87(4), 1985, pp. 821–825

AMBLYOMMA ANTILLORUM KOHLS, 1969 (ACARI: IXODIDAE): DESCRIPTION OF THE IMMATURE STAGES FROM THE ROCK IGUANA, *IGUANA PINGUIS* (SAURIA: IGUANIDAE) IN THE BRITISH VIRGIN ISLANDS

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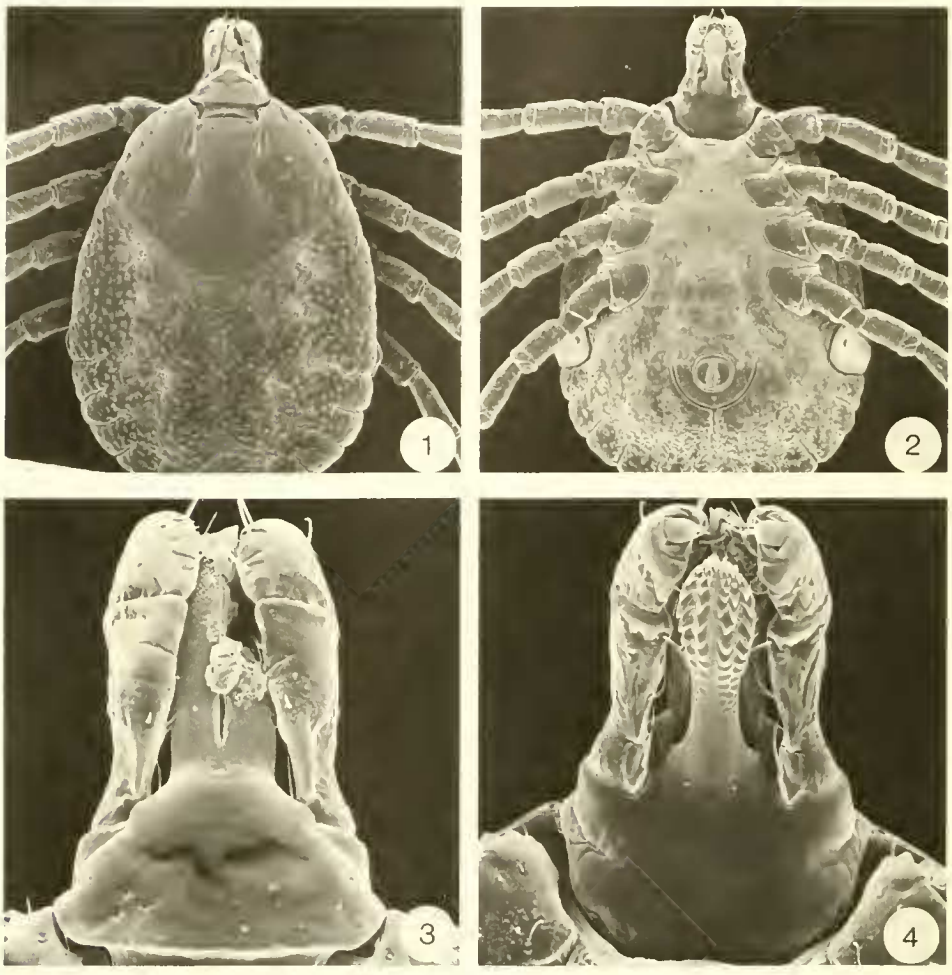
Abstract.—The nymph and larva of *Amblyomma antillorum* are described and illustrated for the first time from specimens collected on the endangered rock- or Anegada iguana, *Iguana pinguis* on Anegada Island, British Virgin Islands.

On Caribbean islands, iguana-feeding ticks of the genus *Amblyomma* comprise a small, relatively compact group of four species: *Amblyomma albopictum* Neumann, *A. antillorum* Kohls, *A. cruciferum* Neumann, and *A. torrei* Vigeuras. *Amblyomma dissimile* Koch is only found occasionally on iguanas. It is primarily a parasite of snakes and also parasitizes Amphibia.

Herein are described the immature stages of *Amblyomma antillorum* Kohls, a parasite of the rock iguana, *Iguana pinguis* (Barbour). The descriptions are based on 2 nymphs and 3 larvae, the only specimens available. Measurements (mm) are given for all specimens. Preparation of immature stages for scanning electron microscopy follows the method of Corwin et al. (1979).

Amblyomma antillorum Kohls

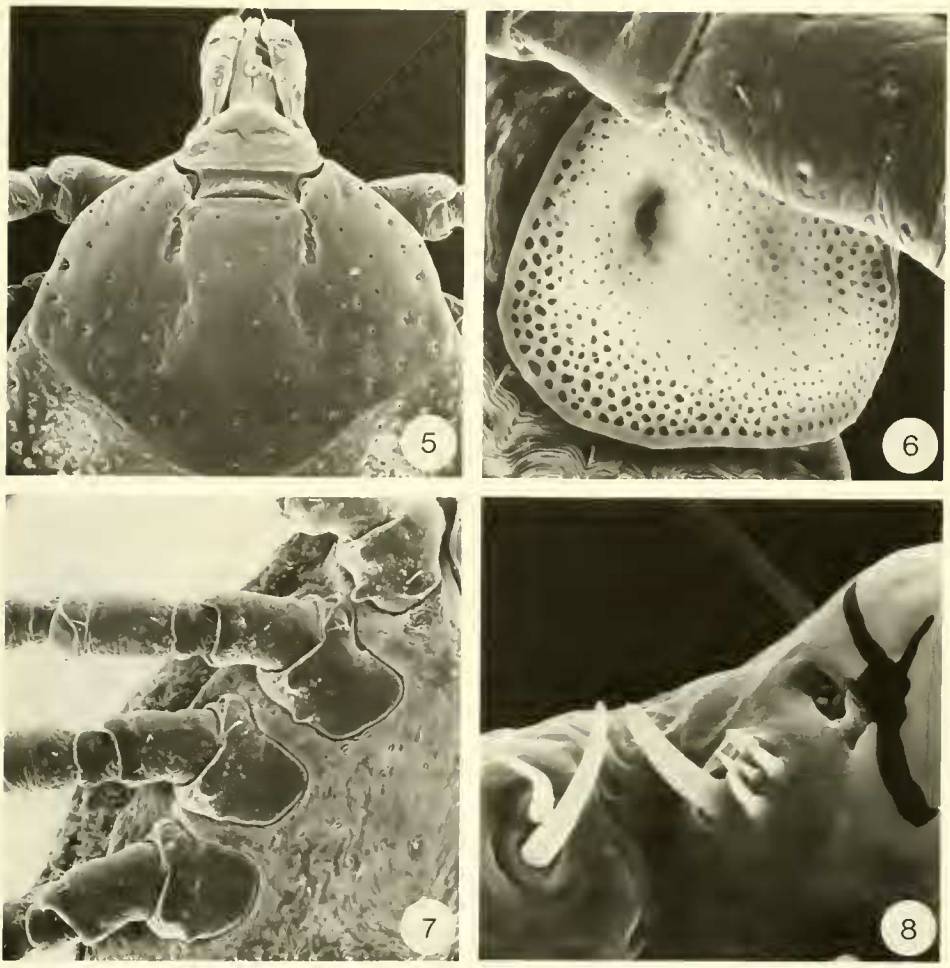
Nymph (Figs. 1–8).—*Body* (Figs. 1, 2). Length from scapular apices to posterior body margin 1.13, 1.64; width 0.86, 1.12, widest at level of spiracular plates. *Capitulum* (Figs. 3, 4). Length from posterior margin of cheliceral sheaths to posterior capitular margin 0.12, 0.11; width at level of scapulae 0.21, 0.20. *Basis capituli* dorsally (Fig. 3) ca. 2× as wide as long, triangular, cornua absent. [The specimen illustrated in Fig. 3 shows the basis capituli with two surface indentations centrally. The other nymphal specimen does not show this artifact.] Basis capituli ventrally (Fig. 4) with posterior margin convex. *Palpi* (Figs. 3, 4) 0.25, 0.23 long, segment 2 ca 2× as long as segment 3; segments decreasing in size in the order 2, 3, 1, 4; setae as illustrated. *Hypostome* bluntly rounded and bulbous anteriorly; dental formula 2/2 throughout with several minute denticles forming an apical corona; ca. 6 teeth in each file diminishing to crenulations basally. *Scutum* (Fig. 1, 5). Length 0.32, 0.33; width 0.41, 0.45; outline as illustrated; evenly distributed; *cervical grooves* short, deep, directed posteriorly; *eyes* at lateral scutal angle, not bulging or encircled by coloration. *Spiracular plate* (Fig. 6) subcircular with slight



Figs. 1–4. *Amblyomma antillorum* nymph (RML117481). 1, Dorsal view (64×). 2, Ventral view (64×). 3, Capitulum, dorsal view (318×). 4, Capitulum, ventral view (212×).

dorsal prolongation. *Legs* (Figs. 7, 8). Coxa I–IV each with two spurs, the externals slightly bulbous, the internals more pointed and decreasing in size from I–IV. Trochanters lack spurs. Tarsus I 0.26, 0.24 long; 0.07, 0.07 wide. Haller's organ (Fig. 8) with roof bifurcate; anterior pit setae number 6.

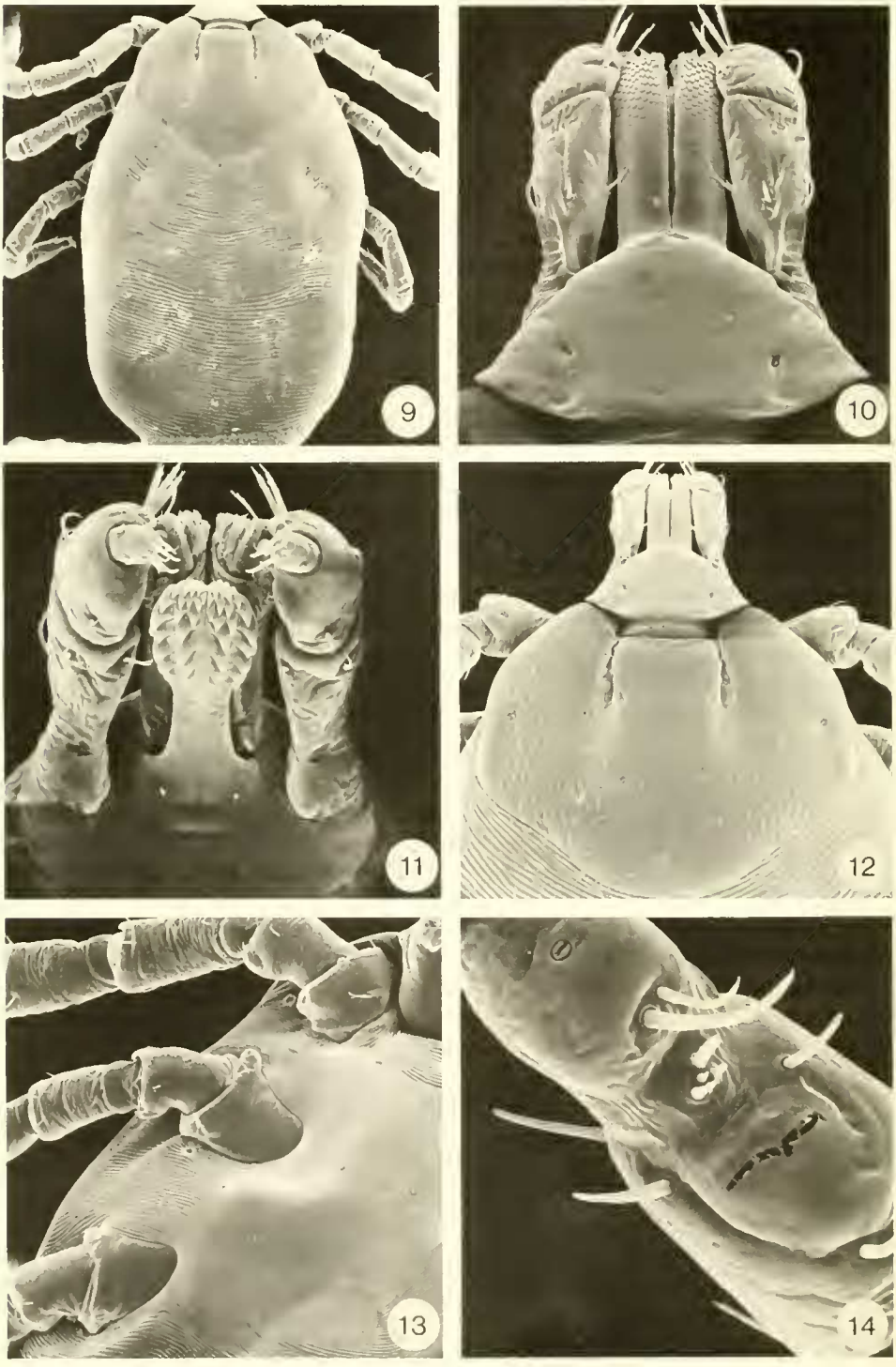
Larva (Figs. 9–14).—*Body* (Fig. 9) partially engorged; length from anterior scutal margin to posterior body margin 0.82, 0.92, 1.05; width 0.55, 0.59, 0.67 widest at level of coxae IV. Dorsal body setae number 10 pairs; 2 pairs central dorsals, 8 pairs marginal dorsals. Ventral setae 12 pairs and 1 pair on anal valves; 3 pairs sternals; 2 pairs preanals; 2 pairs premarginals and 5 pairs marginal ventrals. *Capitulum* (Figs. 10, 11). Length from posterior margin of chelicerал sheaths to posterior margin of basis capituli 0.65, 0.85, 0.81; width 0.12, 0.15, 0.14. *Basis capituli* dorsally (Fig. 10) with posterior margin straight medially then angling anterolaterally, cornua absent. Ventrally (Fig. 11) with posterior margin broadly



Figs. 5–8. *Amblyomma antillorum* nymph (RML117481). 5, Scutum (106×). 6, Spiracular plate (530×). 7, Coxae I–IV (212×). 8, Haller's organ (2120×).

rounded. Posthypostomal setae 1 minute pair. *Palpi* 0.12, 0.15, 0.14 long, suture between segments 2 and 3 distinct; setae 0 on segment 1, 4 dorsally and 2 ventrally on 2, 5 dorsally and 3 ventrally on 3, ca 9 on segment 4. *Hypostome* (Fig. 11) bluntly rounded anteriorly with a corona of fine denticles; dentition 2/2 throughout length with crenulations extending posteriorly. *Scutum* (Figs. 9, 12) 0.30, 0.29, 0.30 long; 0.41, 0.40, 0.41 wide; setae 3 pairs. *Cervical grooves* short deep parallel troughs. *Legs* (Figs. 13, 14) Coxae I–III each with a single, small, truncate spur bearing a small to minute seta posteriorly [the seta is broken off on spur of coxa I in Fig. 13]. Coxal setae, 3 on I, 2 on II and III. Tarsus I 0.15, 0.16, 0.17 long; 0.05, 0.05, 0.06 wide. Haller's organ (Fig. 14) with 5 anterior pit setae.

Material examined.—26 ♂, 1 ♀, 2N, 3L *Amblyomma antillorum* (RML117481) ex *Iguana pinguis* (♀) collected from dewlap, cloaca and hind axillary areas, Anegada Island (18°45'N, 64°20'W), British Virgin Islands, 30 Jul. 1984, James D. Lazell, Jr.



Figs. 9–14. *Amblyomma antillorum* larva (RML117481). 9, Dorsal view (85×). 10, Capitulum, dorsal view (424×). 11, Capitulum, ventral view (530×). 12, Scutum (212×). 13, Coxae I–III (212×). 14, Haller's organ (1272×).

In addition to Anegada Island, *A. antillorum* is also found on *Iguana delicatissima* on the island of Dominica (Kohls, 1969). We have recently found a collection of 11 ♂ *A. antillorum* (RML115734) in the F. C. Bishopp tick collection (Bishopp 15182) from an iguana, East Caicos Island, Bahama Islands, 28 July 1930.

Species Relationships

Little is known about the immatures of Caribbean reptile-feeding *Amblyomma* species. The immature stages of *A. albopictum* are unknown and larvae of both *A. cruciferum* and *A. torrei* are undescribed. Thus, only the larva of *A. antillorum* is known for this group. The nymph of *A. antillorum* is inornate, which separates it from the ornate nymphs of *A. cruciferum* and *A. torrei.*

Remarks

The host of *Amblyomma antillorum, Iguana pinguis,* is found only on Anegada of the 46 named islands forming the artificial political entity of the British Virgin Islands. This saurian is a highly endangered species, a victim of competition with goats and other feral livestock, predation by dogs and cats, and habitat destruction and hunting by man. Because these iguanas receive no protection, a program was begun in July, 1984, to relocate them from Anegada to Guana Island, a privately owned wildlife sanctuary. *Iguana pinguis* was previously resident on Guana Island but was eradicated by agriculture prior to 1900 (Lazell, pers. comm.).

The host of *Amblyomma antillorum* on East Caicos Island is surely *Iguana carinata carinata.* This iguana was listed in the genus *Cyclura* by Schwartz and Thomas (1975) as occurring on Big Iguana Cay off East Caicos Island.

Iguana pinguis is more commonly known as *Cyclura pinguis,* but I have followed Lazell (1983) who considered both the genera *Cyclura* and *Brachylophus* to be synonyms of *Iguana.*

Acknowledgments

I am most grateful to James D. Lazell, Jr., supported by the Mocatta Metals Corporation, for supplying me with specimens of *A. antillorum* and for information on *I. pinguis* and to Richard G. Robbins for the scanning electron photomicrographs.

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